**Basic Mathematics**

**Lectures 4 and 5**

**Assignment 3 (35 marks)**

**Instructions**

a) Attempt all questions. This Assignment covers Lectures 4 and 5

1) Solve the following using Cramer's method. (4 Points)

2) Solve the following system using Substitution method ; $\begin{matrix} 5x + 2y = 9 \\ 2x - 3y = -4 \end{matrix}$ (4 Points)

3) Solve the following linear system using elimination method; $\begin{matrix} 3x + 2y = 17 \\ 5x - 7y = -13 \end{matrix}$ (4 Points)

4) Anita bought 7 mangoes and 4 pears at a total cost of 285/-. Chris bought 11 similar mangoes and 5 similar pears at a total cost 390/-. Find how much Kemboi paid for 12 similar mangoes and 8 similar pears. (5 Points)

5) Solve the following system using Cramer's method; $\begin{matrix} x + y - z = 10 \\ x - 2y - 3z = -52 \\ x + 3y + z = 60 \end{matrix}$ (6 Points)

6) Solve the following system using substitution rule; $\begin{matrix} x + y + z = 18 \\ 2x - y - 2z = -10 \\ x + 3y - z = 16 \end{matrix}$ (6 Points)

7) Three times the tens digit of a certain 2-digit number is 2 more than four times the units digit. The difference between the given number and the number obtained by reversing the digits is two less than twice the sum of the digits. Find the number. (6 Points)